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	TITLE: Waterfowl Banding	

Abstract: During 2008, 3,656 Canada geese (*Branta canadensis maxima*) and 682 wood ducks (*Aix sponsa*) were banded. 643 relocated Canada geese were also banded, with 531 also receiving plastic tarsal bands. The minimum banding goal for Canada geese was exceeded, as we approached the waterfowl program's goal of 5,000 per year by the 2009 field season. Banding efforts should continue as necessary tools in waterfowl management. Fish and Wildlife Areas with bandable populations of wood ducks that have not participated in the recent past should be provided with the necessary support and encouraged to participate. Canada goose banding effort should be expanded to include as many relocated urban geese as is practicable.

History

The banding program carried out by the Indiana Division of Fish and Wildlife (IDFW) is a cooperative effort between IDFW, the US Fish and Wildlife Service (USFWS), and the US Geological Survey (USGS) through the Bird Banding Laboratory (BBL). The IDFW's goals have historically been to band 2,000 locally-breeding Canada geese (*Branta canadensis maxima*) each year, as well as 1,285 wood ducks (*Aix sponsa*).

Methods

Indiana Division of Fish and Wildlife (IDFW) biologists and assistants captured and banded resident waterfowl using funnel traps (geese) and baited traps (wood ducks). Canada geese were banded during their flightless period, which occurs during the last two weeks of June. Wood ducks were banded during July and August. All banding records were reported to the Bird Banding Laboratory (Laurel, Maryland) using BANDIT software. Wood duck banding occurred on four participating FWAs: Hovey Lake, Jasper-Pulaski, LaSalle, and Willow Slough. In addition, wood ducks were banded at Monroe and Mississinewa reservoirs.

Canada geese that were relocated from urban areas to FWAs were also banded with plastic tarsal bands. Orange bands were placed on adult birds, while white bands were placed on juvenile birds. These bands will help determine rates at which relocated urban birds return to urban areas.

Indiana no longer uses plastic neck collars on geese. Canada discontinued using collars on interior Canada geese after 2002, due to concerns that collars reduce survival. Collar data are only useful if the proportion of collars from different areas is known. This data quality issue, combined with survival concerns, leaves no reason for Indiana to continue an expensive collaring operation.

Results

A total of 3,656 Canada geese were banded on state and private properties in Indiana (Table 1). For all banded geese, the juvenile to adult age ratio was 0.83:1 and the male to female ratio was 0.91:1

(not including relocated birds). A total of 643 relocated Canada geese were banded, and 531 of those received colored plastic tarsal bands.

Staff at four Indiana FWAs and two reservoirs banded 682 wood ducks (Table 2). The juvenile to adult age ratio was 6.66:1, and the male to female ratio was 1.19:1.

In addition, 96 mallards (*Anas platyrhynchos*), 3 American black ducks (*A. rubripes*), and one mallard x black duck hybrid were banded at Monroe Reservoir. The juvenile to adult age ratio for mallards was 1.62 :1, and the male to female ratio was 0.87:1.

Discussion

The minimum banding goal for Canada geese was exceeded in 2008. We continue to expand our banding goals to include more relocated geese. These birds are moved from urban areas to FWAs under authority of Indiana’s Special Canada Goose Permit. Banding these geese allows us to better estimate harvest rates and the rates at which these birds return to urban areas. Overall, IDFW will attempt to band 5,000 Canada geese per year by the 2009 banding season.

The overall number of wood ducks banded this year was back below the federal sub-Flyway goal again this year. Water levels statewide were very high this season, making it difficult to locate concentrations of wood ducks. Finding concentrations of adult birds continues to be a challenge, especially adult males. We are investigating the possibility of using cannon nets to trap wood ducks next year, by which means we will hopefully be able to more effectively capture birds in loafing areas. Wood duck production seemed to be good this year, despite the low banding totals. The age ratio of juveniles to adults was very high, though this is confounded by trap aversion in older birds.

In future years, banding crews will be supplied with bands needed to band mallards, black ducks, and blue-winged teal (*Anas discors*) that are captured incidental to wood duck operations. The possibility of targeting these other duck species while cannon netting will also be investigated.

Table 1. Canada geese banded in Indiana during this reporting period.

Age	Unknown Sex	Male	Female	Total
Adult	3	1113	1032	2,145
Juvenile	0	956	1195	2,151
Unknown	0	0	0	0
Total	3	2,069	2,227	4,296

Table 2. Number of wood ducks banded at four Indiana Fish and Wildlife Areas and two reservoirs during this reporting period. The numbers in parentheses are the quotas for that age and/or sex.

Age	Unknown Sex	Male	Female	Total
Adult	0	25 (218)	64 (312)	89
Juvenile	0	346 (314)	247 (441)	593
Unknown	0	0	0	0
Total	0	371	311	682



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